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Application of

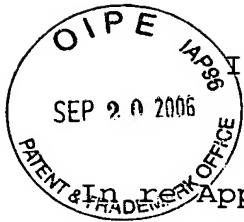
Group Art Unit: 3672

Examiner: Thompson, Kenneth

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SUBSTITUTE APPEAL BRIEF



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of

David N. Ware

Serial No. 10/764,659

Filed: January 26, 2004

For: GROUND DRILLING TOOL

Group Art Unit: 3672

Examiner: Thompson, Kenneth

SUBSTITUTE APPEAL BRIEF

## I. REAL PARTY IN INTEREST

The Applicant David N. Ware is the real party in interest.

## II. RELATED APPEALS AND INTERFERENCES

None.

#### IV. STATUS OF THE CLAIMS

Claims 1-8 stand rejected by the final action mailed March 6, 2006. Claims 1-8 are pending. Applicant hereby appeals the final rejection of claims 1-8.

#### IV. STATUS OF AMENDMENTS

None.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

Applicant's claim 1 claims a ground drilling tool (page 4, lines 18-22, Fig. 3, ref. 20) for use in conjunction with a length of drilling pipe (page 4, lines 2-4, Fig. 1, ref. 12), the drilling tool comprises a hammer (page 4, line 8-12, Fig. 2, ref. 16) having a lower end and an upper end adapted to be coupled to a length of drilling pipe through a back head (page 4, lines 6-7, Fig. 2, ref. 14). The tool also includes a drill cutting bit (page 4, lines 7-8, Fig. 2, ref. 15) coupled to the lower end of the hammer and a back bit (page 4, line 18-20, Fig. 3, ref. 20) extending from the back head. The back bit has a plurality of upwardly extending cutting teeth (page 4, lines 22-24, Fig. 3, ref. 22). With this construction, the drill cutting bit creates a bore in the ground as it is moved downwardly and the back bit recuts the bore as it is moved upwardly should debris fall within the bore.

Applicants claim 3 claims a in combination with ground drilling equipment (page 4, lines 18-22, Fig. 3, ref. 20) including a length of drilling pipe (page 4, lines 2-4, Fig. 1, ref. 12), a hammer (page 4, line 8-12, Fig. 2, ref. 16) and a downward cutting bit (page 4, lines 7-8, Fig. 2, ref. 15). The improvement comprises a back bit (page 4, line 18-20, Fig. 3, ref. 20) coupled to the hammer, the back bit having a plurality of upwardly extending cutting teeth (page 4, lines 22-24, Fig.

3, ref. 22). With this construction, the drill cutting bit creates a bore in the ground as it is moved downwardly and the back bit recuts the bore as it is moved upwardly should debris fall within the bore.

Applicant's claim 6 claims a ground drilling tool (page 4, lines 18-22, Fig. 3, ref. 20) for use in conjunction with a length of drilling pipe (page 4, lines 2-4, Fig. 1, ref. 12) and a hammer (page 4, line 8-12, Fig. 2, ref. 16) having a cutting bit (page 4, lines 7-8, Fig. 2, ref. 15) at one end. The drilling tool comprises a tubular body (page 4, lines 22-24, Fig. 3, ref. 21) coupled to the hammer opposite the cutting bit and a plurality of upwardly extending earth cutting means (page 4, lines 22-24, Fig. 3, ref. 22). With this construction, the drill cutting bit creates a bore in the ground as it is moved downwardly and the drill tool recuts the bore as it is moved upwardly should debris fall within the bore.

#### VII. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-3 and 5-8 stand rejected under 35 U.S.C. §102 as being anticipated by Pate et al. Claims 1 and 4 stand rejected under 35 U.S.C. §102 as being anticipated by H. M. Binkley.

# VIII. ARGUMENT

## (A) Rejection of Claims 1 and 2 under 35 USC 102(b) by Pate et al.

Applicant's invention of claim 1 defines a ground drilling tool for use in conjunction with a length of drilling pipe, the drilling tool comprises a hammer having a lower end and an upper end adapted to be coupled to a length of drilling pipe through a back head. The tool also includes a drill cutting bit coupled to the lower end of the hammer and a back bit extending from the back head. The back bit has a plurality of upwardly extending cutting teeth. With this construction, the drill cutting bit creates a bore in the ground as it is moved downwardly and the back bit recuts the bore as it is moved upwardly should debris fall within the bore.

In essence, the examiner contends that Applicant's invention is shown by the Pate et al. patent. Furthermore, the examiner has taken the position that the Pate et al. patent shows a hammer because "Pate et al. includes impacting shoulders (15,26) creating a hammer or jarring action." Applicant respectfully disagrees with this assertion. A hammer is a very specific type of drilling apparatus which is pneumatically driven. The hammer is shown in Applicant's patent in Fig. 2 by reference number 16. A drilling hammer imparts a continuous series of impacting forces upon a drill bit. The examiner has erroneously equated such an impact device (hammer) with the fixed face (26) of ribs 32 and

the horizontal shoulder (15). These stationary flanges should not be rendered equivalent to a highly specialized impacting device.

Applicant's claim 1 also states that a drill cutting bit is coupled to the lower end of the hammer. As previously pointed out, since the Pate et al. reference does not include a hammer this reference can not show a drill cutting bit coupled to the lower end of the hammer. As such, this references again does not anticipate Applicant's claimed invention.

Lastly, but most importantly, the Pate et al. reference shows a back bit extending from a back head mounted to the hammer. As this reference does not include a hammer it cannot possibly show a back head coupled to the hammer. Moreover, this reference can not possibly show a back bit mounted to the back head, as this reference shows a back head. The unique and important factor of Applicant's construction is that it dislodges a bound, very expensive hammer which typically occurs because of debris hitting the top ledge formed by the hammer. It is the back bit which recuts debris so that the hammer ledge is allowed to pass through the bore. The "reamer" of Pate et al. is not a hammer, nor a back head, nor a back bit, each having a very specific meaning in the art which does not overlap each other and therefore the "reamer" cannot be utilized to anticipate Applicant's claimed invention.

It should be pointed out that the examiner has taken the position that with regard to Pate et al. that this patent shows

a "back head (14), a drill cutting bit (attachable at 3) and a back bit (24) having upwardly extending teeth (32) mounted to the back head". Applicant respectfully submits that the examiner has created a typo in identifying back bit as reference number 24, as portion 24 does not include upwardly extending teeth 32. It is believed that the examiner meant to recite reference number 14. However, if so, the examiner has improperly doubly included the coupler body (14) as both Applicant's back head and its back bit, which the Applicant has specifically identified as two separately claimed items.

Applicant has disclosed the novel feature of combining a hammer with a back head which includes a back bit. This combination is novel and is not shown in any of the references cited by the examiner, especially since the cited references do not show even the existence of a hammer, a back head or a back bit. As such, the combination is not anticipated by the cited references and should be awarded patent protection.

(B) Rejection of Claims 1 and 2 under 35 USC 102(b) by Binkley et al.

The examiner contends that Applicant's invention is shown by the H.M. Binkley patents. Again, the examiner has taken the position that the H.M. Binkley patent shows a hammer. Applicant respectfully disagrees with this assertion. A hammer is a very specific type of drilling apparatus which is pneumatically

driven. The hammer is shown in Applicant's patent in Fig. 2 by reference number 16. A drilling hammer imparts a continuous series of impacting forces upon a drill bit. The examiner has erroneously equated such an impact device (hammer) with the coupler (13). These static coupling device should not be rendered equivalent to a highly specialized impacting device. The passage recited by the examiner with reference to the "hammer" (col. 2, lines 22- 26)" merely states that the force of the drill is placed on the drill bit, as with any conventionally known drill/drill bit, this simple coupling device is not a specialized hammer.

Applicant also respectfully submits that H.M. Binkley shows a cutting bit, a device very different from a hammer. In fact, Applicant's specification specifically points out that a cutting bit is coupled to the hammer, i.e., they are two separate and distinct devices. Clearly, as neither of the cited references includes a hammer at all, they cannot anticipate Applicant's claimed invention.

Applicant's claim 1 also states that a drill cutting bit is coupled to the lower end of the hammer. As previously pointed out, since this reference does not include a hammer it cannot show a drill cutting bit coupled to the lower end of such a hammer. As such, this reference does not anticipate Applicant's claimed invention.

Lastly, but most importantly, this reference does not show a back bit extending from a back head mounted to the hammer. As

the cited reference does not include a hammer it cannot possibly show a back head coupled to the hammer. Moreover, this cited reference cannot possibly show a back bit mounted to the back head. The unique and important factor of Applicant's construction is that it dislodges a bound, very expensive hammer which typically occurs because of debris hitting the top ledge formed by the hammer. It is the back bit which recuts debris so that the hammer ledge is allowed to pass through the bore. The "coupling" shown in the H.M. Binkley patent is not a hammer, nor a back head, nor a back bit, and therefore the "coupling" cannot be utilized to anticipate Applicant's claimed invention.

Applicant has disclosed the novel feature of combining a hammer with a back head which includes a back bit. This combination is novel and is not shown in the H. M. Binkley patent, especially since the cited reference does not even show the existence of a hammer, a back head or a back bit. As such, the combination is not anticipated by the cited references and should be awarded patent protection.

(C) Rejection of Claims 3-5 under 35 USC 102(b) by Pate et al.

Claim 3 recites a back bit coupled to a hammer with the back bit having a plurality of upwardly extending cutting teen. As previously submitted the Pate et al. patent does not include a hammer. As such, the Pate el al. patent does not anticipate

claim 3.

Furthermore, Applicant specifically recites that the back bit has upwardly extending cutting teeth. The ribs 32 of Pate et al. terminate at ledge 26. These ribs do not extend upwardly, instead they extend outwardly or radially from the tubular body. As the ribs do not extend in the direction specifically recited in Applicant's claim 3, the Pate et al. patent does not anticipate Applicant's claimed invention.

(D) Rejection of Claims 6-8 under 35 USC 102(b) by Pate et al.

Claim 6 recites a drill tool comprising a tubular body coupled to a hammer opposite a cutting bit. The tool has a plurality of upwardly extending earth cutting means. Again, Pate et al. does not include a hammer, as previously argued.

Furthermore, Applicant again specifically recites that the tool has upwardly extending earth cutting means (teeth 22, claim 7). The ribs 32 of Pate et al. terminate at ledge 26. These ribs do not extend upwardly, instead they extend outwardly or radially from the tubular body. As the ribs do not extend in the direction specifically recited in Applicant's claim 6, the Pate et al. patent does not anticipate Applicant's claimed invention.

The requisite fee due upon filing of this brief is attached.  
Any additional fee is to be charged to Baker Donelson Bearman  
Caldwell & Berkowitz, PC, Deposit Account No. 11-0553.

Respectfully submitted,

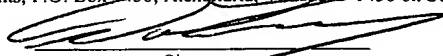


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Docket No.: 2171164-000001

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## CLAIMS APPENDIX

1. A ground drilling tool for use in conjunction with a length of drilling pipe, the drilling tool comprising:

a hammer having a lower end and an upper end adapted to be coupled to a length of drilling pipe through a back head;

a drill cutting bit coupled to said lower end of said hammer; and

a back bit extending from said back head, said back bit having a plurality of upwardly extending cutting teeth,

whereby the drill cutting bit creates a bore in the ground as it is moved downwardly and the back bit recuts the bore as it is moved upwardly should debris fall within the bore.

2. The ground drilling tool of claim 1 wherein said back bit is permanently affixed to said back head.

3. In combination with ground drilling equipment including a length of drilling pipe, a hammer and a downward cutting bit, the improvement comprising a back bit coupled to said hammer, said back bit having a plurality of upwardly extending cutting teeth, whereby the drill cutting bit creates a bore in the ground as it is moved downwardly and the back bit recuts the bore as it is moved upwardly should debris fall within the bore.

4. The improvement of claim 3 wherein said back bit is mounted to an upper end of said hammer.

5. The improvement of claim 3 wherein said hammer includes a back head and wherein said back bit is mounted to said back head.

6. A ground drilling tool for use in conjunction with a length of drilling pipe and a hammer having a cutting bit at one end, the drilling tool comprising a tubular body coupled to said hammer opposite the cutting bit, and a plurality of upwardly extending earth cutting means,

whereby the drill cutting bit creates a bore in the ground as it is moved downwardly and the drilling tool recuts the bore as it is moved upwardly should debris ball within the bore.

7. The ground drilling tool of claim 6 wherein said earth cutting means comprises a cutting teeth.

8. The improvement of claim 6 wherein said hammer includes a back head and wherein said back bit is mounted to said back head.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None